

**REMARKS****INTRODUCTION:**

In accordance with the foregoing, claims 9 and 23 have been amended. No new matter is being presented, and approval and entry are respectfully requested.

Claims 1, 4-7, 9, 19-23 and 25 are pending and under consideration. Reconsideration is respectfully requested.

**REJECTION UNDER 35 U.S.C. §112:**

In the Office Action, at pages 3-4, numbered paragraph 4, claims 9 and 23 were rejected under 35 U.S.C. §112, second paragraph, for the reasons set forth therein. This rejection is traversed and reconsideration is requested.

Claim 9 has been amended to change "selected from among" to recite ---selected from the group consisting of--- as suggested by the Examiner.

Claim 23 has been amended to show more clearly that only silver is attached to the body and how depositing the nano-sized particles using an ion-adsorption reduction method is combined with coating a volatile solution dispersed with nano-sized metal particles onto the surface of the filter body or home appliance body and drying the coated filter body or home appliance body.

Hence, it is respectfully submitted that claims 9 and 23 are now in allowable form under 35 U.S.C. §112, second paragraph.

**REJECTION UNDER 35 U.S.C. §103:**

**A.** In the Office Action, at pages 5-7, numbered paragraph 8, claims 1, 4-7, 9 and 19-22 were rejected under 35 U.S.C. §103(a) as being unpatentable over WO 02/13999 A1 (hereafter, '999) in view of Sato et al. (US 2001/0023593; hereafter, Sato). The reasons for the rejection are set forth in the Office Action and therefore not repeated. The rejection is traversed and reconsideration is requested.

It is respectfully submitted that '999 requires that the metal particle suspension include a sulfur compound, as recited in Tomonari (US 2003/0170382 A1; hereafter, Tomonari), which is a national stage of WO 02/13999 A1, and is used as a translation thereof, the Abstract of which is recited below for the convenience of the Examiner:

The present invention relates to a colloidal metal solution comprising colloidal metal particles with a sulfur compound of low molecular weight such as mercaptoacetic acid, mercaptopropionic acid, mercaptoethanol, etc. as a protective colloid on the particle surfaces and having a pH of 8-14. According to the present invention, a colloidal metal solution having a high concentration and a distinguished dispersion stability with a small amount of the protective colloid can be provided with a commercially and economically high advantage without any operation such as centrifuge, etc. (emphasis added)

In contrast, independent claims 1 and 9 of the present invention do not require the use of a sulfur compound. Thus, it is respectfully submitted that Tomonari, and hence '999 teach away from the present claimed invention.

Sato teaches that the antibacterial agent is required to be volatile, as is recited in the Abstract of Sato, recited below for the convenience of the Examiner:

To provide an air conditioner having an antibacterial and mold-proofing member which can be easily incorporated and has high effectiveness and a method for controlling the air conditioner. An air conditioner of the present invention having a heat exchanger and a blower for supplying the heat exchanger with air comprises an antibacterial and mold-proofing member which includes an antibacterial and mold-proofing component which will volatile at an ambient temperature and diffuse in the air conditioner, and also has a control mechanism for gradually evaporating which controls the release rate of the antibacterial and mold-proofing component to the inside of the air conditioner so that it becomes large at high humidity and small at low humidity. (emphasis added)

Sato further describes the requirement of volatility of the antibacterial agent and that the release rate of the antibacterial component is based on humidity, as is recited in paragraph [0031] of Sato, recited below for the convenience of the Examiner:

[0031] With regard to the inside of the air conditioner, since condensation occurs in the part of the evaporator 4, the humidity inside the indoor unit becomes high at the time of cooling or dehumidifying operation, which causes the problem of growth of mold. The growth rate of mold significantly changes with temperature and humidity. In general, the temperature is in the range of 20 to 30°C, the humidity is equal to or more than 70%, and the higher the temperature and the humidity are, the larger the growth rate of mold becomes. In the case of the antibacterial and mold-proofing member 9 of the present invention, a release rate of the antibacterial and mold-proofing component is controlled based on the ambient humidity. When the humidity is high, that is, the growth rate of mold is large, the release rate of the antibacterial and mold-proofing component is increased, while when the humidity is low, that is, the growth rate of mold is small, the release rate of the antibacterial and mold-proofing component is decreased. As a consequence, it becomes possible to prevent waste of the antibacterial and mold-proofing component and prolong the life of the antibacterial and mold-proofing member 9. (emphasis added)

It is respectfully submitted that, in contrast to Sato, independent claims 1 and 9 of the present invention utilize nano-sized particles of silver deposited on the surface of a filter body in an air cleaner or a home appliance body, which are known to those skilled in the art not to be volatile, and are not released into the air.

Hence, it is respectfully submitted that even if WO 02/13999 A1 is combined with Sato, the combination does not teach or suggest independent claims 1 and/or 9 of the present invention. Thus, it is submitted that independent claims 1 and 9 of the present invention are patentable under 35 U.S.C. §103(a) over WO 02/13999 A1 in view of Sato et al. (US 2001/0023593). Since claims 4-7 and 19-22 depend from claim 1 of the present invention, claims 4-7 and 19-22 are patentable under 35 U.S.C. §103(a) over WO 02/13999 A1 in view of Sato et al. (US 2001/0023593) for at least the reasons claim 1 is patentable under 35 U.S.C. §103(a) over WO 02/13999 A1 in view of Sato et al. (US 2001/0023593).

**B.** In the Office Action, at pages 8, numbered paragraph 9, claim 25 was rejected under 35 U.S.C. §103(a) as being unpatentable over WO 02/13999 A1 (hereafter, '999) in view of Sato et al. (US 2001/0023593; hereafter, Sato) as applied to claims 1, 4-7, 9, and 19-22 above, and further in view of Mayhue (USPN 4,067,205; hereafter, Mayhue). The reasons for the rejection are set forth in the Office Action and therefore not repeated. The rejection is traversed and reconsideration is requested.

As noted above, it is respectfully submitted that '999 requires that the metal particle suspension include a sulfur compound, as recited in Tomonari (US 2003/0170382 A1; hereafter, Tomonari), which is a national stage of WO 02/13999 A1, and is used as a translation thereof. In addition, as noted above, Sato teaches that the antibacterial agent is required to be volatile. Neither of these requirements is required for independent claim 25 of the present invention.

Mayhue teaches that materials for a filter for an air conditioner can include stainless steel or chrome plated copper.

However, even if combined, '999, Sato and Mayhue do not teach or suggest the method of claim 25 of the present invention because '999 requires that the metal particle suspension must include a sulfur compound and Sato requires that the antibacterial agent be volatile. Hence, it is respectfully submitted that claim 25 of the present invention is patentable under 35 U.S.C. §103(a) over WO 02/13999 A1 in view of Sato et al. (US 2001/0023593) as applied to claims 1, 4-7, 9, and 19-22 above, and further in view of Mayhue (USPN 4,067,205).

**C.** In the Office Action, at pages 8-9, numbered paragraph 10, claim 23 was rejected under 35 U.S.C. §103(a) as being unpatentable over Nishida et al. (USPN 5,897,673; hereafter, Nishida) in view of Zhou et al. (USPN 5,804,057; hereafter, Zhou). The reasons for the rejection are set forth in the Office Action and therefore not repeated. The rejection is traversed and reconsideration is requested.

It is respectfully submitted that Nishida teaches that the antibacterial particles are incorporated into fibers, as opposed to being located only on the surface of the body, as is set

forth in claim 23 of the present invention. Col. 3, lines 39-50, of Nishida, recited below for the convenience of the Examiner, discloses that the fine antibacterial metal particles and/or hardly-soluble metallic salts are incorporated into the fibers:

We, the present inventors have assiduously studied fibers containing fine metallic fibers and methods for producing them. As a result, we have found that the above-mentioned objects can be attained by incorporating fine particles of metals and/or hardly-soluble metallic salts into crosslinked polymers having ion-exchangeable or ion-coordinable polar groups, and have completed the present invention. Accordingly, the present invention is to provide fine metallic particles-containing fibers that contain fine particles of metals and/or hardly-soluble metallic salts in fibers with crosslinked structure containing ion-exchangeable or ion-coordinable polar groups. (emphasis added)

The specification of Nishida specifies that Nishida has designed the fibers containing the fine particles of metals and/or hardly-soluble metallic salts to overcome the prior art problems of limited amounts of fine metallic particles existing on the inside of the fibers and the limited amount of polar groups capable of carrying the metal being reduced (see col. 2, lines 17-58, and col. 3, lines 26-31, Nishida), and to exhibit broad deodorizability (col. 22, lines 13-14, Nishida). Nishida points out: "The fibers with a deodorizing substance as adhered to and fixed on their surfaces by post-treatment could not basically have large deodorizing capacity" (emphasis added). Hence, Nishida teaches away from claim 23 of the present invention.

Zhou teaches that a silver ion exchange type reduction reaction can occur during electrolysis.

Claim 23 of the present invention provides a method of providing antibacterial activity to a surface only of a filter body or a home appliance body.

Hence, it is respectfully submitted that claim 23 of the present invention is patentable under 35 U.S.C. §103(a) over Nishida et al. (USPN 5,897,673) in view of Zhou et al. (USPN 5,804,057).

#### **CONCLUSION:**

In accordance with the foregoing, it is respectfully submitted that all outstanding objections and rejections have been overcome and/or rendered moot, and further, that all pending claims patentably distinguish over the prior art. Thus, there being no further outstanding objections or rejections, the application is submitted as being in condition for allowance which action is earnestly solicited.

If the Examiner has any remaining issues to be addressed, it is believed that prosecution can be expedited by the Examiner contacting the undersigned attorney for a telephone interview to discuss resolution of such issues.

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If there are any underpayments or overpayments of fees associated with the filing of this Amendment, please charge and/or credit the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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